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22 August 1994

Mr. John Meyer
Work Assignment Manager
U.S. Environmental Protection Agency
Region X, HW-113
1200 Sixth Avenue
Seattle, WA 98101

WO 4000-19-03-4100
DCN 4000-19-03-AAAE

Subject: Site Inspections
HRS Memorandum for Columbia Steel Casting
CERCLIS No. ORD009022708
Contract No. 68-W9-0046
Work Assignment No. 46-23-0JZZ

Dear Mr. Meyer:

The Hazard Ranking System (HRS) score for the Former Wood Treating Site on Columbia Steel Casting property is based on existing information gathered for the Site Inspection (SI); WESTON did not perform any sampling at the site. The score was determined in accordance with the HRS Final Rule (40 CFR part 300). A site score of 22.24 was calculated based on the analytical results for soil, groundwater and sediment from the 1992 Remedial Investigation (ERM, 1992). The site score was obtained using known information and conservative judgments. The surface water pathway is the primary pathway of concern with a score of 43.81.

This memo outlines the critical information and assumptions influencing the site score, the source characteristics, and information used to characterize migration pathways and targets.

WASTE CHARACTERISTICS

1) Two sources, the wastewater impoundments and the soil in the treatment area, were used in scoring.

2) The impoundment area, which was considered a buried/backfilled surface impoundment, was given a waste quantity value based on Tier D (area). The area of the older and newer impoundments (approximately 16,000 and 8,000 square feet, respectively) were added together for a total square footage of 24,000 square feet.

3) The pressure treatment area, which was considered contaminated soil, was given a waste quantity value based on Tier C (volume). The volume of contaminated soil was estimated by taking the estimated area bounded by ERM-18, ERM-19, ERM-SB-3 and ERM-SB-7 (the area of detected contamination) and multiplying by half of the depth of contamination (17 feet), to take into account that in one boring, ERM-19, contamination was only found to a depth of 7 feet and in ERM-SB-7 it was found at 35 feet. The resulting approximate volume of contaminated soil was 4,000 cubic yards.

LIKELIHOOD OF RELEASE (CONTAINMENT)

For both sources, containment factors of 10 were given for groundwater and surface water and 0 for soil and air. The 0 values for soil and air are due to the fill and asphalt cover over the sources. The determination of containment values for groundwater and surface water for each source is described below.

Impoundments

1) A containment value of 10 for groundwater was assigned based on analytical data of hazardous substance migration from the surface impoundments (HRS, Table 3-2) as evidenced by concentrations of volatile and semivolatile organics detected in monitoring well ERM-MW-10.

2) A containment value of 10 for surface water was assigned based on analytical data of hazardous substance migration from the surface impoundments (HRS, Table 4-2) as evidenced by the observed drips from the sewer pipe, the surface soil removed in the Limited Removal Action, and detections of semivolatile organics in Center Pond sediment samples ERM-SD-2 and ERM-SD-4.

3) A flood containment factor value of 10 was assigned based on no documentation that containment was designed to prevent a washout of hazardous materials by flood. Due to the amount of fill and the asphalt cover, however, it was assumed that the impoundment was contained for a 100-year flood.

4) A flood frequency factor value of 25 was assigned based on the site being in a 100-year floodplain.

Treatment Area

1) A containment value of 10 for groundwater was assigned based on hazardous substance migration from the source area (HRS, Table 3-2) as evidenced by volatile and semivolatile organic detections in monitoring well ERM-MW-3.

2) A containment value of 10 for surface water was assigned based on a) no evidence of hazardous substance migration from source area, and b) neither of the following were present: a maintained engineering cover and a functioning and maintained run-on control system and runoff management system (HRS, Table 3-2).

3) A flood containment factor value of 10 was assigned based on no documentation that containment was designed to prevent a washout of hazardous materials by flood. Due to the asphalt cover, however, it was assumed that the contaminated soil was contained for a 100-year flood.

4) A flood frequency factor value of 25 was assigned based on the site being in a 100-year floodplain.

LIKELIHOOD OF RELEASE (OBSERVED RELEASE)

1) The groundwater observed release value was assigned based on detections of volatile and semivolatile organics in monitoring well ERM-MW-3 from samples taken on 17 September 1991 (ERM, 1990). This monitoring well was screened from 15 to 30 feet below ground surface in the upper extent of the alluvial aquifer.

2) The surface water observed release value was assigned based on detections of semivolatiles in Center Pond sediment sample ERM-SD-4 (ERM, 1990).

TARGETS

Groundwater

1) Groundwater target values were assigned based on two domestic wells from 1 to 2 miles, six domestic wells from 2 to 3 miles, and twenty-one domestic wells from 3 to 4 miles in distance from the site. Domestic wells were multiplied by 3.8 people, which would total 7.6, 22.8, and 79.8 people for each distance category, respectively.

2) Two municipal supply wells on Hayden Island (2.6 miles from the site) were included as potential targets. The wells are standby wells which are not used yearly. If used, the water would serve approximately 2,000 residents on Hayden Island. According to Section 3.3.2 of the HRS Final Rule, when a standby well is maintained on a regular basis so that water can be withdrawn, it is included in the groundwater population calculation for the groundwater targets factor value. Inclusion in the population calculation at a distance from 2 to 3 miles increases the groundwater targets factor value by 22.

3) The nearest well was estimated to be 1 mile away.

4) The use of a well at Northwest Packing, within 1 mile of the site, for canning purposes was considered use of groundwater as a resource.

Surface Water

Drinking Water

1) No drinking water target values were assigned due to the absence of drinking water intakes 15 miles upriver or downriver of the site.

Human Food Chain

1) For the human food chain target, two fisheries were included: the Willamette Harbor fishery (4.2 miles downstream; 708,070 pounds per year) and the Columbia River fishery (5 miles downstream; 6,830,665 pounds per year).

2) The food chain individual scored a 20 because, according to Section 4.1.3.3.1 of the HRS Final Rule, if there is an observed release of a hazardous substance having a bioaccumulation factor value of 500 or greater to surface water in the watershed and there was a fishery (or portion of a fishery) present anywhere within the target distance limit (15 miles), a value of 20 should be assigned. Chrysene and bis(2-ethyl hexyl) phthalate, detected in sediment sample ERM-SD-4, have bioaccumulation factor values of 500 or above and both the Willamette River and Columbia River fisheries fall within the 15-mile target distance limit.

Sensitive environments

1) Sensitive environments included as targets are the following:

- Willamette River as a salmon migratory route
- Columbia River as a salmon migratory route
- Smith and Bybee lakes as endangered species habitat (bald eagles and peregrine falcons)

Wetlands included as targets are the following:

- Center Pond (0.08 miles)
- Columbia River (including Multnomah Channel, Sauvie Island, Hayden Island, Government Island, and Pearcy Island) (25 miles)
- Willamette Harbor (5 miles)
- Smith and Bybee lakes (6.5 miles)

2) All sensitive environments represent potential contamination except Center Pond, which is considered subject to Level II contamination based on detections of semivolatiles in sediment as discussed above. It should be noted that the wetland frontage of Center Pond is just under the HRS breakpoint for a qualifying wetland of 0.1 mile. Seasonal variations are likely to put the frontage value over or under the breakpoint, having a significant effect on the site score.

RECOMMENDATIONS

Based on HRS criteria, risk to human health and the environment from contamination at the former wood-treating site was minimal for the soil exposure, air migration, and groundwater migration pathways. No further action under CERCLA is recommended.

Sincerely,

ROY F. WESTON, INC.

Tom Beierle
Project Scientist

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TB/brl
Enclosure
cc: J. LaBaw (EPA)
S. Fuller (WESTON)
PMO file
Chron file